

THE BOTTOM LINE ON ROI

A One-Day Workshop Describing How to Calculate the ROI in Government Training Programs

LEARNING OBJECTIVES

After completing this workshop, you should be able to:

- Identify the drivers for ROI in the public sector
- Make the business case for ROI in the public sector
- Develop program objectives at multiple levels
- Explain to clients how ROI works
- Identify 7 of the 12 guiding principles
- Describe the 10 steps in the ROI Methodology
- Plan next steps

Jack J. Phillips, Ph.D.
Patti P. Phillips, Ph.D.

THE BOTTOM LINE ON ROI

CONTENT

- The need for ROI
- When ROI is appropriate
- ROI application
- ROI objectives
- ROI model
- ROI standards
- ROI implementation
- ROI benefits

The materials in this workbook are taken from the following publications:

Return on Investment Basics. Patti P. Phillips and Jack J. Phillips. Alexandria: ASTD, 2006

Return in Investment in Training and Performance Improvement Programs (2nd Edition). Jack J. Phillips. Boston: Butterworth-Heinemann, 2003.

The Bottomline on ROI. Patti P. Phillips. Atlanta: CEP Press, 2002.

Measuring Return on Investment, Volume 3. In Action series, Patti P. Phillips (editor) Jack J. Phillips (series editor). Alexandria: ASTD, 2001.

ROI at Work: Best Practice Case Studies from the Real World. Jack J. Phillips and Patti P. Phillips, Editors. American Society for Training and Development, Alexandria, VA, 2005.

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Shifting Paradigms

Activity Based → **Results Based**

- | | |
|---|---|
| <ul style="list-style-type: none">• No business need for the program• No assessment of performance issues• No specific measurable objectives• No effort to prepare program participants to achieve results• No effort to prepare the work environment to support transfer• No efforts to build partnerships with key managers• No measurement of results or benefit-cost analysis• Planning and reporting is input focused | <ul style="list-style-type: none">• Program linked to specific business needs• Assessment of performance effectiveness• Specific objectives for behavior and business impact• Results expectations communicated to participants• Environment prepared to support transfer• Partnerships established with key managers and clients• Measurement of results and benefit-cost analysis• Planning and reporting is outcome focused |
|---|---|

Why does ROI work?

- Provides a balanced set of measures
- Offers a step-by-step process
- Bridges business evaluation and program evaluation
- Balances research/statistical methods with practical application
- Flexible for all types of programs
- Credible with managers and administrators

Got Results?

Deborah Stewart is the new director of Intelligence Academy (IA), the learning organization for one of the top secret intelligence communities within the Department of Defense (DOD). Matt Mathews is Chief, Strategy and Analytics.

Deborah has just returned from a meeting with the Deputy Director. There is growing pressure to show results for funding flowing to IA programs. The Deputy Director has reinforced with Deborah the need for IA to start showing results. IA programs are costly and there is ongoing discussion among department leaders that IA may be a candidate for resource reallocation.

Deborah has called a meeting with all of her department heads; this meeting includes Matt Mathews.

Deborah: Thank you for joining me this morning. The intent of the meeting, as I mentioned in my recent e-mail, is for each of you to brief me on your recent assessment of your programs.

As I mentioned, IA funding is being scrutinized throughout the agency. Resources are tight and the leadership wants to ensure that the right programs are receiving an appropriate allocation of funding.

Each of you was asked to determine how your programs are adding value to the mission of this department. Matt, you're the chief of analytics; let's begin with you. How is IA doing as far as contributing to the mission?

Matt: Thanks Deborah. As you can see by the slide presented here and in your hand out, IA is quite busy.

We are developing a variety of new programs; many of these programs are required to quickly develop new hires so they can be valuable contributors. We are also about to deploy a new professional health program that offers staff members throughout the agency the opportunity to take unique courses they feel will help them professionally and personally. We believe that personal development is a contributing factor to mission success.

In the past nine months we have developed ten new programs, offered 1,200 hours of training, taken 2,000 employees through some sort of training experience, and on average our instructors receive a rating of 4.5 out of 5 on the program satisfaction rating that is developed through the end-of-course evaluations.

We piloted the Human Performance Improvement (HPI) Certificate program with 18 participants. Though the end-of-course evaluations indicated minimal enthusiasm about the course from participants, we thought we'd give it another try by offering it to a second cohort. As far as we can tell people are somewhat excited about what we are doing.

Got results? (cont.)

We are also deploying on-the-job training and one-on-one coaching. The idea is that the people closest to the job can train others in the job. It takes up a lot of time, especially from supervisors, but we think reducing training costs is worthy. The only uncertainty is whether or not people are actually performing at a higher rate than when they participate in group training efforts.

Deborah interrupts: Excuse me Matt. This does sound like you are quite busy; but, what about results. Are we receiving any value from IA efforts?

Matt: Value? Well, yes. Participants like the programs. In most cases, supervisors like the programs as well – especially, when they can send some of their weaker performers. This helps with team productivity.

Deborah: Do you have any data that show what people are doing or how they are becoming more productive in their work as a result of the IA programs?

Matt: Nothing concrete. We do hear from time to time how a tool from one of the language courses has assisted them with translation. Also, the information assurance team does well with the Black Hawk simulation. Through this activity, we can determine whether or not participants know how to ward off unwanted intrusions into the computer network.

Deborah: But do you know if those unwanted intrusions in our systems are being detected and prevented?

Matt: Actually, I did hear there is a downward trend in intrusions. According to some of the IA staff, we have had less downtime due to unwanted intrusions than any time in the past.

Deborah: That's great. But is that due to IA programs or is that due to the new system the agency just installed?

Looking disgusted, Deborah asks for a recess and motions Matt over for a five minute sidebar.

- You are Matt. What dialogue do you believe is about to occur?
- You are Deborah. What are you about to say to Matt?
- Would you say that Intelligence Academy is results based?

Case Application: United Way Agency

At the end of a monthly staff meeting, Philip Harrah, CEO of United Way Agency (UWA), asked Gina Woolson, Manager of Learning and Development, about the Communications Workshops that had been conducted with all supervisors and managers throughout the agency. The workshop featured the Myers-Briggs Type Indicator (MBTI) and showed participants how to interact with, and understand, each other in their routine activities. The MBTI classifies people into one of 16 personality types.

Philip continued, "I found the workshop very interesting and intriguing. I can certainly identify with my particular personality type, but I am curious what specific value these workshops have brought to the organization. Do you have any way of showing the results of all 25 workshops?" Gina quickly replied, "We certainly have improved teamwork and communications throughout the agency. I hear people make comments about how useful the process has been to them personally." Philip added, "Do we have anything more precise? Also, do you know how much money we have spent on these workshops?" Gina quickly responded by saying, "I am not sure that we have any precise data and I am not sure exactly how much money we spent, but I can certainly find out." Philip concluded with some encouragement, "Any specifics would be helpful. Please understand that I am not opposing this training effort. However, when we initiate these types of programs, we need to make sure that they are adding value to the organization. Will you let me know your thoughts on this issue in about two weeks?"

Gina was a little concerned about this CEO's comments, particularly since the CEO enjoyed the workshop and made several positive comments about it. Why was he questioning the effectiveness of it? Why was he concerned about the costs?

These questions began to frustrate Gina as she reflected over the workshop. She recalled how she was first introduced to the MBTI. She attended the workshop when it was conducted by a friend, was impressed with the instrument, and found it to be helpful as she learned more about her own personality type.

Gina thought the process would be useful to UWA managers and asked the consultant to conduct a session internally with a group of middle-level managers. With favorable reaction, she decided to try a second group with the top executives, including Philip Harrah. Their reaction was favorable. Then she launched it with the entire staff. The feedback was excellent, including feedback from the CEO.

She realized that the workshops were expensive. Over 600 managers had attended. She felt teamwork had improved, but there was no way of knowing for sure. With some types of training you never know if it works, she thought. Still, Gina was facing a dilemma. Should she respond to the CEO or just ignore the issue?

Continued on the next page.

Questions for Discussion

1. Is this situation typical? Explain.

2. What are the basic issues in this case?

3. How could this situation be avoided in the future?

4. What should Gina do? Be specific.

5. What will Philip be expecting in the future?

Who is Using the Methodology?

- US Department of Defense
- National Security Agency
- Department of Veterans Affairs
- Central Intelligence Agency
- US Office of Personnel Management
- NASA
- National Science Foundation
- City of New York
- City of San Diego
- City of Richmond
- City of Denver
- State of Texas
- State of New York
- Government of New Zealand
- Government of Singapore
- Government of Poland
- Government of Australia
- Government of Canada
- British Government
- Government of Ireland

Over 200 public sector organizations

Applications

- Learning and Development
- Career Development
- Competency Systems
- Diversity Programs
- E-Learning
- Executive Coaching
- Gainsharing
- Meetings and Events
- Leadership Development
- Green Initiatives
- Organization Development
- Orientation Systems
- Recruiting Strategies
- Safety & Health Programs
- Self-Directed Teams
- Skill-Based/Knowledge-Based Compensation
- Technology Implementation
- Quality Management
- Wellness/Fitness Initiatives

Drivers for Increased Public Sector Accountability

- Regulations are requiring more accountability
- Increase cost of programs
- Budget shortfalls
- Taxpayer pressure
- Consistent lack of results
- New breed of government managers

Public Sector Issues

(Real or Imagined)

- No profits – no ROI?
- Lack of business alignment
- Absence of hard data?
- Too much politics
- Programs are necessary
- Multiple ROI perspectives

The Money Issue in the Public Sector

- No profits
- Payoff in cost savings or cost reduction
- OR
- Payoff in cost avoidance
- Costs of program are fully loaded
- Impact on budget?

Is Your Organization A Candidate for ROI Implementation?

Check the most appropriate level of agreement for each statement:

1 = Strongly Disagree; 5 = Strongly Agree

- | | | Disagree | | Agree | | |
|---|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| | | 1 | 2 | 3 | 4 | 5 |
| 1. My organization is considered a large organization with a wide variety of programs. | | <input type="checkbox"/> |
| 2. We have a large budget that attracts the interest of senior management. | | <input type="checkbox"/> |
| 3. Our organization has a culture of measurement and is focused on establishing a variety of measures in all functions and departments. | | <input type="checkbox"/> |
| 4. My organization is undergoing significant change. | | <input type="checkbox"/> |
| 5. There is pressure from senior management to measure results of our programs. | | <input type="checkbox"/> |
| 6. My function currently has a very low investment in measurement and evaluation. | | <input type="checkbox"/> |
| 7. My organization has experienced more than one program disaster in the past. | | <input type="checkbox"/> |
| 8. My department has a new leader. | | <input type="checkbox"/> |
| 9. My team would like to be the leaders in our field. | | <input type="checkbox"/> |
| 10. The image of our department is less than satisfactory. | | <input type="checkbox"/> |
| 11. My clients are demanding that our processes show bottom-line results. | | <input type="checkbox"/> |
| 12. My function competes with other functions with our organization for resources. | | <input type="checkbox"/> |
| 13. There is increased focus on linking our process to the strategic direction of the organization. | | <input type="checkbox"/> |
| 14. My function is a key player in change initiatives currently taking place in the organization. | | <input type="checkbox"/> |
| 15. Our overall budget is growing and we are required to prove the bottom line of value of our processes. | | <input type="checkbox"/> |

Scoring

If you scored:

15 – 30	You are not yet a candidate for ROI.
31 – 45	You are not a strong candidate for ROI, however, it is time to start pursuing some type of measurement process.
46 – 60	You are a candidate for building skills to implement the ROI process. At this point there is no real pressure to show the ROI, which is the perfect opportunity to perfect the process within the organization.
61 – 75	You should already be implementing a comprehensive measurement and evaluation process, including ROI.

Are you a candidate? _____

The Results

Consider your most important program (i.e., a strategic, expensive, high-profile project that attracts management attention). Suppose you conducted an impact study to measure the success of the program. You discover that three months after completing the program, participants have:

- reacted positively to the program and found it to be relevant to their work;
- learned new skills and gained new information;
- applied the skills and information routinely on the job, although they had some difficulty in a few areas;
- improved several important work unit measures, with some measures improving as much as 30%;
- achieved an impressive 105% return on investment; and
- reported an increase in job satisfaction in the work unit.

Questions for discussion:

1. What issues or concerns do you have about the data?
2. What would these types of data mean for the program?
3. What would the results mean to you personally?
4. If the above items were negative, what would it mean for the program?
5. What would negative results mean to you personally?
6. How should the results be used?

Generates Six Types of Measures

- Reaction and Planned Action
- Learning
- Application and Implementation
- Business Impact
- Return on Investment
- Intangible Measures

....and includes a technique to isolate the effects of the program or solution

Grounded in Research and Application

- Approximately 5,000 impact studies are conducted each year
- Over 20,000 individuals have attended a two-day ROI workshop
- Over 4,000 individuals are certified to implement the ROI methodology
- The ROI methodology has been adopted by hundreds of organizations in manufacturing, service, non-profit, and government settings in 44 countries
- The process has been refined over a 20-year period
- 30 books have been developed to support the process
- ROI Network has 5,000 members
- Several ROI Network conferences are conducted annually
- Ongoing research on the ROI methodology is conducted by the ROI Institute to support practitioners

The ROI Calculation

$$\text{Benefit Cost Ratio (BCR)} = \frac{\text{Program Benefits}}{\text{Program Costs}}$$

$$\text{ROI} = \frac{\text{Net Program Benefits}}{\text{Program Costs}} \times 100$$

Notes

ROI Framework

Level	Measurement Focus
1. Reaction and Planned Action	Measures participant satisfaction with the program/project and captures planned action.
2. Learning and Confidence	Measure changes in knowledge, skills, and attitudes.
3. Application and Implementation	Measures changes in on-the-job behavior or actions.
4. Impact and Consequences	Captures changes in business impact measures.
5. Return on Investment	Compares benefits to the costs.

Questions answered at Level 1:

Questions answered at Level 2:

Questions answered at Level 3:

Questions answered at Level 4:

Questions answered at Level 5:

Five Levels of Measurement - Examples

Level 0 Input and Indicators

- Number of projects
- Audiences
- Web site hits
- Request
- Attendance
- Costs
- Time to Deliver

Level 1 Reaction and Planned Action

- Relevance
- Importance
- Usefulness
- Appeal
- Emotion
- Brevity
- Uniqueness
- Concreteness
- New Information
- Motivation
- Appropriateness
- Intent to Use

Level 2 Learning and Confidence

- Information
- Knowledge
- Understanding
- Capability
- Contacts
- Confidence
- Perceptions
- Skills

Level 3 Application and Implementation

- Use of Information
- Use of Knowledge
- Use of Skill
- Completion of Actions
- Completion of Tasks
- Implementation of Ideas
- Following the Policy
- Use of Procedure
- Use of Regulation
- Success with Application
- Barriers
- Enablers

Level 4 Impact

- Productivity
- Quality
- Errors
- Incidents
- Re-Work
- Efficiency
- Compliance Discrepancies
- Citizen Complaints
- Costs
- Employee Engagement
- Employee Retention
- Service Delivery
- Cycle Time
- Customer Satisfaction

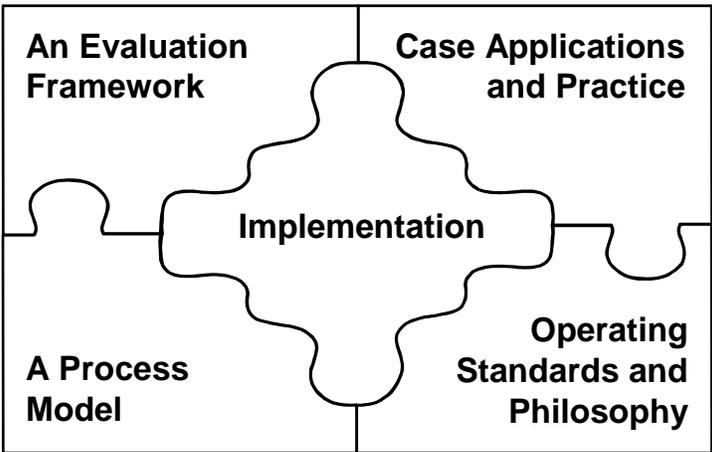
Intangible Measures

.... includes a technique to isolate the effects of the communication project.

Level 5 Return on Investment

- ROI (%)
- Benefit Cost Ratio
- Payback Period

Evaluation is like a Puzzle



The purpose of each piece of the evaluation puzzle:

- Evaluation Framework

- Process Model

- Operating Standards

- Case Application

- Implementation

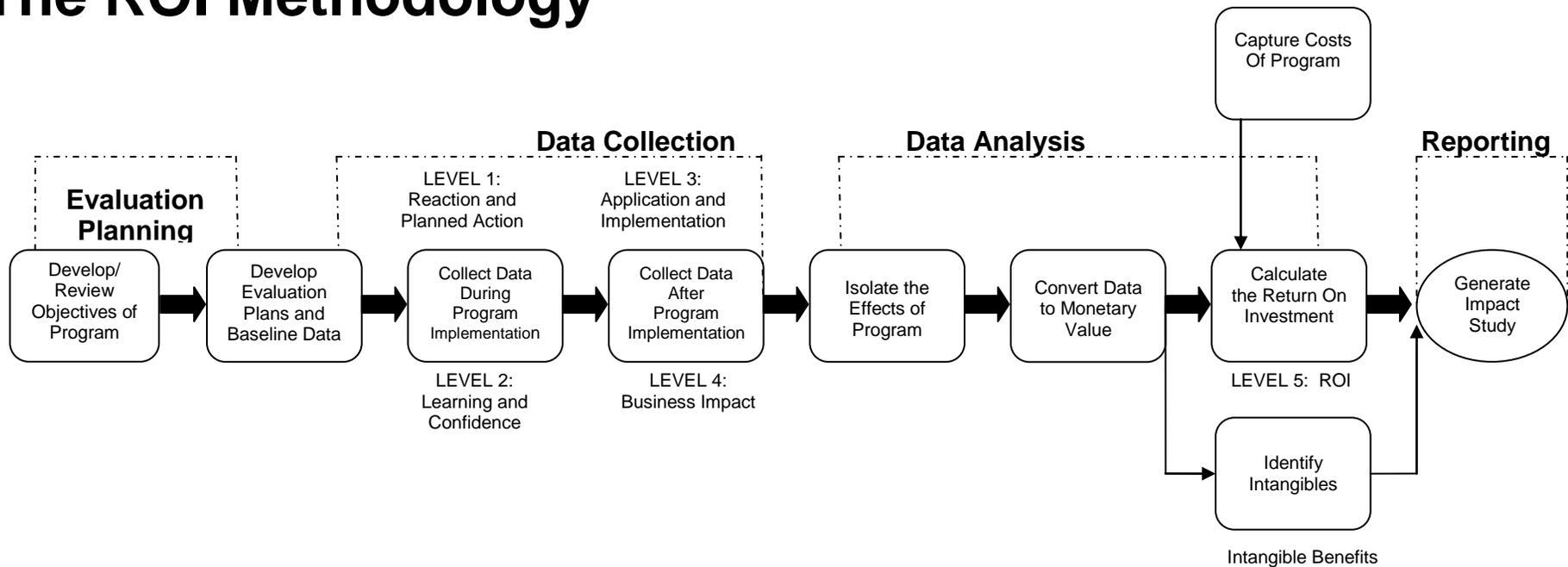
Measurement in the Learning and Development Field

Level	Measurement Category	Current Status ↑ Coverage* (Now)(%)	Goal in 5 Years ↑ Coverage* (Goal)(%)	Comments About Status
0	Inputs/Indicators Measures inputs into learning and development including the number of programs, attendees, audience, costs, and efficiencies	100%	100%	This is being accomplished now
1	Reaction and Perceived Value Measures reaction to, and satisfaction with, the experience, contents, and value of program	100%	100%	Need more focus on content and perceived value
2	Learning Measures what participants learned in the program – information, knowledge, skills, and contacts (takes-away from the program)	30 – 40%	80 – 90%	Must use simple learning measures
3	Application and Implementation Measures progress after the program – the use of information, knowledge, skills, and contacts	10%	30%	Need more follow-up
4	Impact and Consequences Measures changes in business impact variables such as output, quality, time, and cost-linked to the program	5%	10%	This is the connection to business impact
5	ROI Compares the monetary benefits of the business impact measures to the costs of the program.	1%	5%	The ultimate level of evaluation

**Percent of Programs Evaluated At This Level*

1. Add your current status in the status column.
2. Add your goal in the goal column.

The ROI Methodology



ROI Calculation

$$ROI = \frac{\text{Net Project Benefits}}{\text{Project Costs}}$$

Cost of project \$230,000
Benefits of project (1st year) \$430,000

$$ROI = \frac{\$430,000 - \$230,000}{\$230,000} = 0.87 \times 100 = 87\%$$

Evaluation Framework	
Level	Measurement Focus
1. Reaction & Planned Action	Measure participant reaction to the program and captures planned action.
2. Learning & Confidence	Measures changes in knowledge and skills.
3. Application & Implementation	Measures implementation, actions, and changes in behavior on the job.
4. Business Impact	Measures changes in business impact variables.
5. Return on Investment	Compares monetary benefits of the impact of the program.

Guiding Principles

1. When conducting a higher-level evaluation, collect data at lower levels.
2. When planning a higher level evaluation, the previous level of evaluation is not required to be comprehensive.
3. When collecting and analyzing data, use only the most credible sources.
4. When analyzing data, select the most conservative alternatives for calculations.
5. Use at least one method to isolate the effects of the program or project.
6. If no improvement data are available for a population or from a specific source, assume that no improvement has occurred.
7. Adjust estimates of improvements for the potential error of the estimates.
8. Avoid use of extreme data items and unsupported claims when calculating ROI calculations.
9. Use only the first year of annual benefits in the ROI analysis of short-term solutions.
10. Fully load all costs of the solution, project, or program when analyzing ROI.
11. Intangible measures are defined as measures that are purposely not converted to monetary values.
12. Communicate the results of the ROI Methodology to all key stakeholders.

The ROI Process

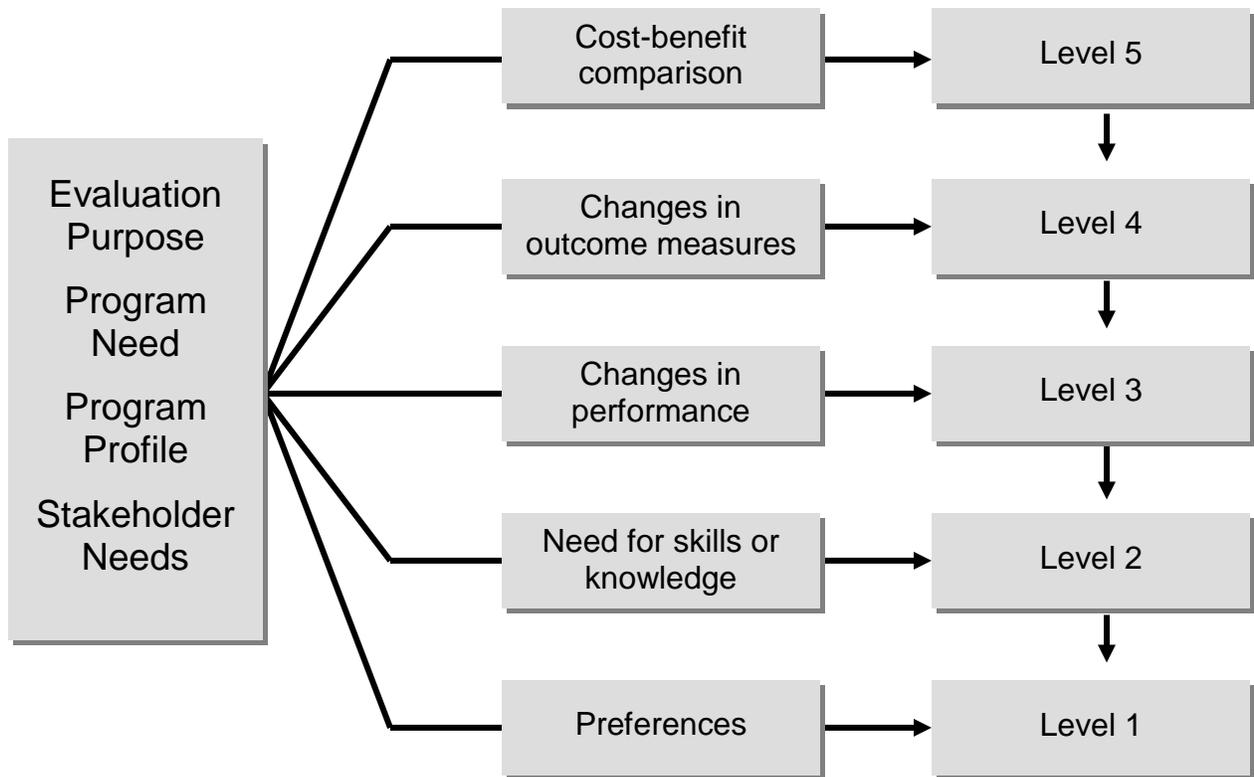
A comprehensive measurement and evaluation process that generates six types of measures:

- Reaction and Perceived Value
- Learning and Confidence
- Application and Implementation
- Business Impact
- Return on Investment
- Intangible Measures

This balanced approach to measurement includes a technique to isolate the effect of the program or solution.

Results-based Solutions

- Performance solutions/projects are initiated, developed and delivered with the end in mind.
- Participants understand their responsibility to obtain results with programs/solutions.
- Support groups (management, supervisors, co-workers, etc.) help to achieve results from performance solutions.
- A comprehensive measurement and evaluation system is in place for each program/project.
- Variety of approaches utilized to measure contribution, representing a balanced viewpoint.
- Follow-up evaluations (Application, Impact, and ROI) are developed for targeted solutions/projects and results are reported to a variety of stakeholders.



Guiding Principle #1

Guiding Principle #2

When Selecting Programs for Level 4 and Level 5 Evaluation, Consider the Following

• Life cycle of the program	Benchmarking*
• Linkage of program to operational goals and issues	14%
• Importance of program to strategic objectives	29%
• Executive interest in the evaluation	50%
• Cost of the program	48%
• Visibility of the program	52%
• Size of target audience	45%
• Investment of time required	6%
	7%

*2007 Survey of Users, N = 235

Evaluation Targets

Level	<i>Percent of Projects</i>			
	Current	Target	Suggested	Benchmarking*
0 Input	_____	_____	100%	100%
1 Reaction	_____	_____	90 – 100%	79%
2 Learning	_____	_____	40 – 60%	54%
3 Application	_____	_____	30 %	31%
4 Impact	_____	_____	10 – 20%	14.4%
5 ROI	_____	_____	5 – 10%	4.3%

The Evaluation Framework Serves Three Purposes

The evaluation framework serves roles beyond categorizing evaluation data. The framework also guides the development of program objectives and ensures stakeholder needs are clearly identified.

- By beginning the needs assessment at the highest level of need, an appropriate solution can be identified. This is the first step toward linking your programs with business results.
- By developing program objectives at each level, the program can be positioned for success. Program objectives represent the measures to be taken during the evaluation process, thereby, eliminating the guesswork when a senior executive says “Show Me the Money!” This is your second step toward linking your programs with business results.
- By evaluating at each of the five levels, results important to all stakeholders are reported and business impact and ROI can be connected to what people do with what they learned. Isolating program effect on results during the evaluation process is the third step toward linking your programs with business results.

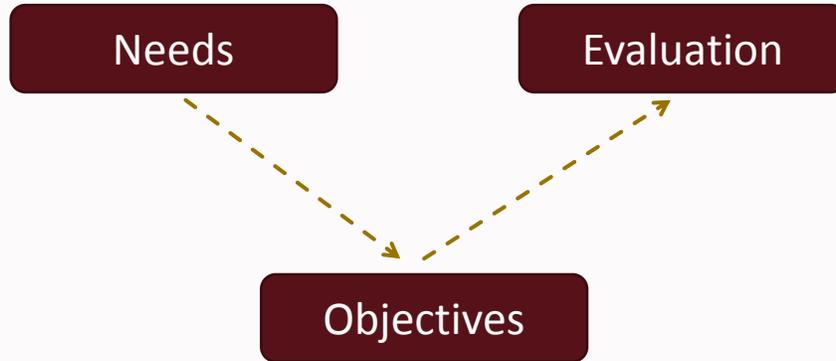
Matching Evaluation Levels with Objectives

Instructions: For each objective listed below, indicate the level of evaluation at which the objective is aimed.

- | | |
|----------------|-------------------------|
| 1. Reaction | 4. Business Impact |
| 2. Learning | 5. Return on Investment |
| 3. Application | |

Objective	Evaluation Level
After completing this program or project, participants should:	
1. Improve work group productivity by 20%	_____
2. Initiate at least three cost reduction projects in 15 days.	_____
3. Achieve an average cost reduction of \$20,000 per project.	_____
4. Increase the use of counseling discussion skills in 90% of situations where work habits are unacceptable.	_____
5. Achieve a 2:1 benefit to cost ratio one year after the new performance-based program is implemented.	_____
6. Develop an understanding of how the employee assistance program works.	_____
7. Increase the job satisfaction index by 25% in 3 months.	_____
8. Integrate patient records into new database following the 5-step process.	_____
9. Increase research grant dollars 20%.	_____
10. Achieve a leadership simulation score average of 75 out of a possible 100.	_____
11. Conduct a performance review meeting with direct reports to establish performance improvement goals.	_____
12. Receive a 4 out of 5 rating on appropriateness of new ethics policy.	_____
13. Decrease the time to recruit new professional staff from 35 days to 20 days.	_____
14. Complete all steps on their action plan in 60 days.	_____
15. Achieve a positive reaction to flextime work schedule system.	_____
16. Be involved in career enhancement program at a participation rate of 15%.	_____
17. Decrease the number of security breaches of patient records.	_____
18. Achieve a post-test score increase of 30% over pre-test.	_____
19. Utilize new software daily as reflected by an 80% score on an unscheduled audit of use.	_____
20. Submit ideas or suggestions for improvement in the first year (10% target).	_____

The levels serve three purposes!



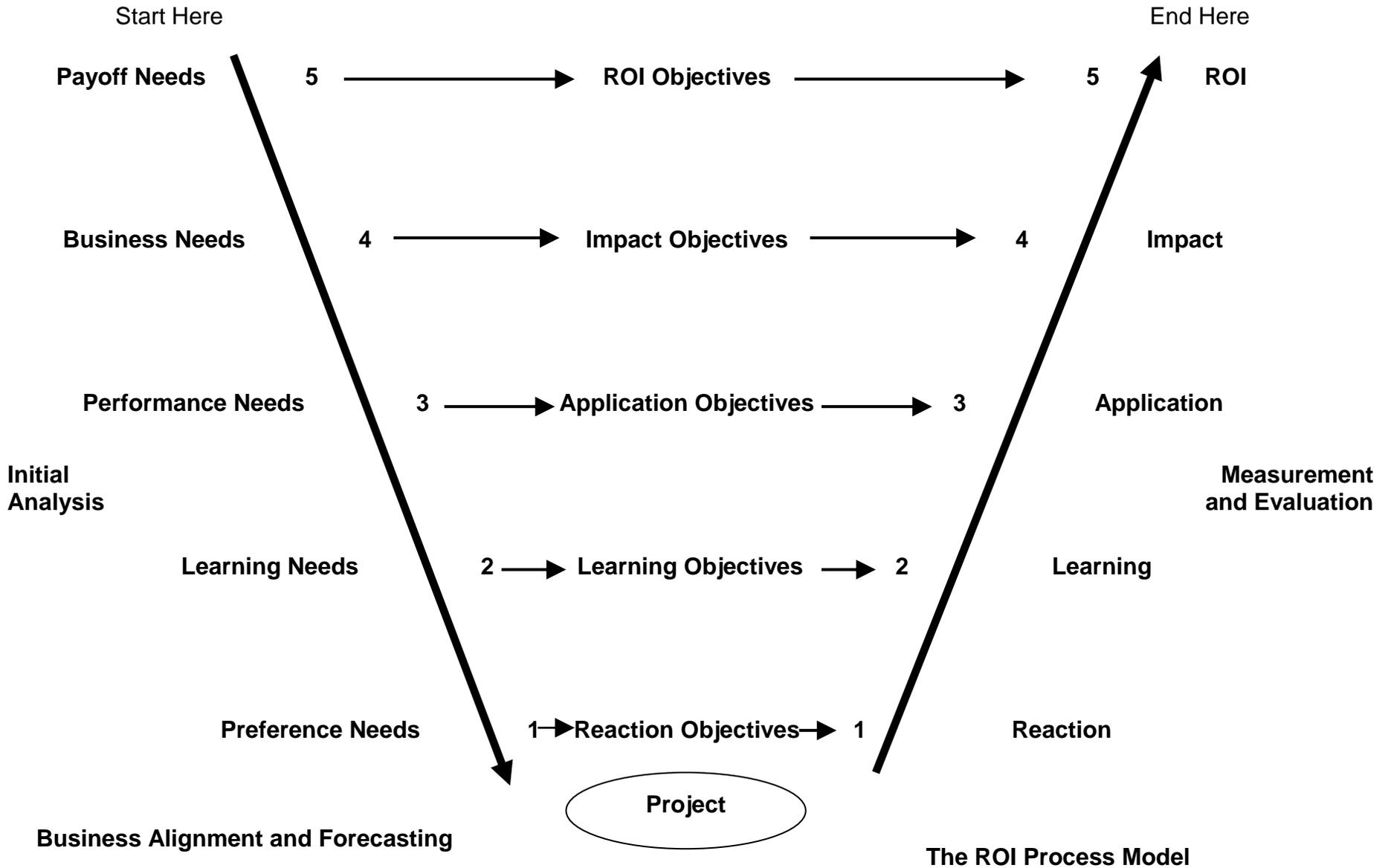
ROI INSTITUTE™

Level 3 and 4 Objectives Provide

- Direction to designers and developers
- Guidance to instructors and facilitators
- Goals for participants
- Satisfaction for program sponsors
- A framework for evaluators

How will you build your team's capability to write Level 3 and Level 4 objectives?

Program Alignment V Model



EXERCISE: Complete Objectives and Evaluation

Program Alignment V Model

Needs

Objectives

Evaluation

Start Here

End Here

Payoff Needs

Absenteeism is costing \$100,000 monthly

5

ROI Objectives

5

ROI

Business Needs

Unplanned absenteeism is 9% and increasing; greater than benchmarking of 5%

4

Impact Objectives

4

Impact

Performance Needs

Discussions between team member and supervisor are not occurring when there is an unplanned absence

3

Application Objectives

3

Application

Initial Analysis

Learning Needs

Deficiency in counseling/discussion skills

2

Learning Objectives

2

Learning

Preference Needs

One-day counseling skills workshop must provide usable, necessary and relevant skills; facilitator-led; participants are supervisors

1

Reaction Objectives

1

Reaction

Measurement and Evaluation

Project

Business Alignment and Forecasting

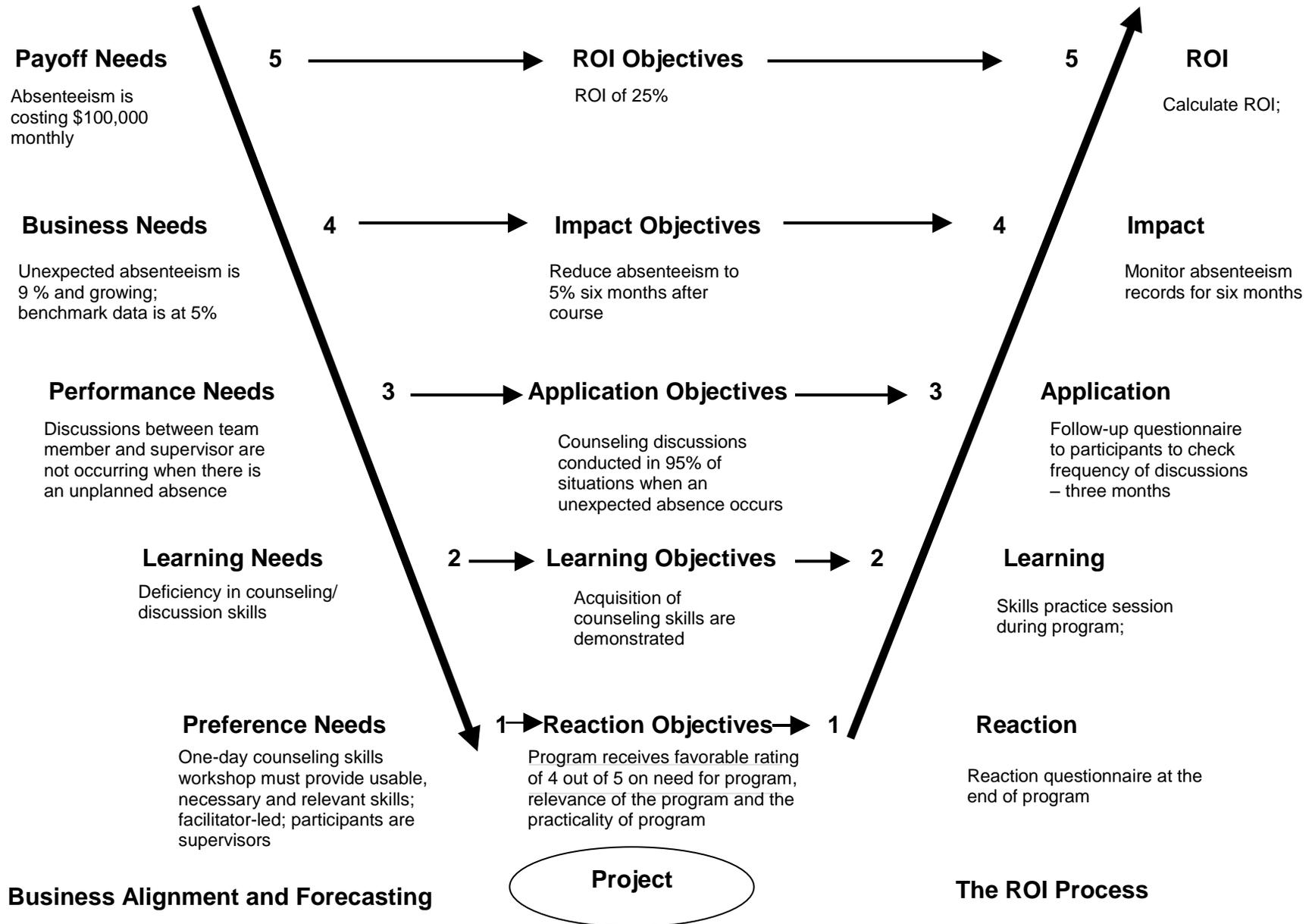
The ROI Process Model

The Alignment Process

V Model

Start Here

End Here



Create a Green Organization

OPCW

-Sample-

Level	Needs	Objectives	Evaluation	Level
5	Help protect the environment Save costs	ROI target of 10%	<ul style="list-style-type: none"> Project benefits compared to costs 	5
4	Reduce carbon emissions High energy costs Rising costs of operations	<ul style="list-style-type: none"> Reduce carbon emission by ____ Reduce energy costs by ____ Reduce materials/supplies by ____ 	<ul style="list-style-type: none"> Organization records 	4
3	Not recycling materials Need to change consumption habits Need to use less materials and supplies Not making environmentally friendly choices	<ul style="list-style-type: none"> Six months after the project begins, employees will <ul style="list-style-type: none"> Recycle in eight categories Alter consumption patterns Reduce usage, conserve Use environmentally friendly supplies 	<ul style="list-style-type: none"> Self-assessment questionnaire Recycle records Records of purchasing eco-friendly products 	3
2	How actions effect the environment Specific green methods Environmental issues	<ul style="list-style-type: none"> All employees will learn <ul style="list-style-type: none"> Environmental issues Specific green actions they can take How to make eco-friendly choices 	<ul style="list-style-type: none"> Self assessment questionnaire Environment Quiz 	2
1	Employees must see project as necessary, important, relevant feasible	<ul style="list-style-type: none"> Program receives favorable rating of 4 out of 5 on: <ul style="list-style-type: none"> Necessary to OPCW Relevance to OPCW Importance of adhering concepts in support of public good 	<ul style="list-style-type: none"> Reaction questionnaire administered to all project participants 	1

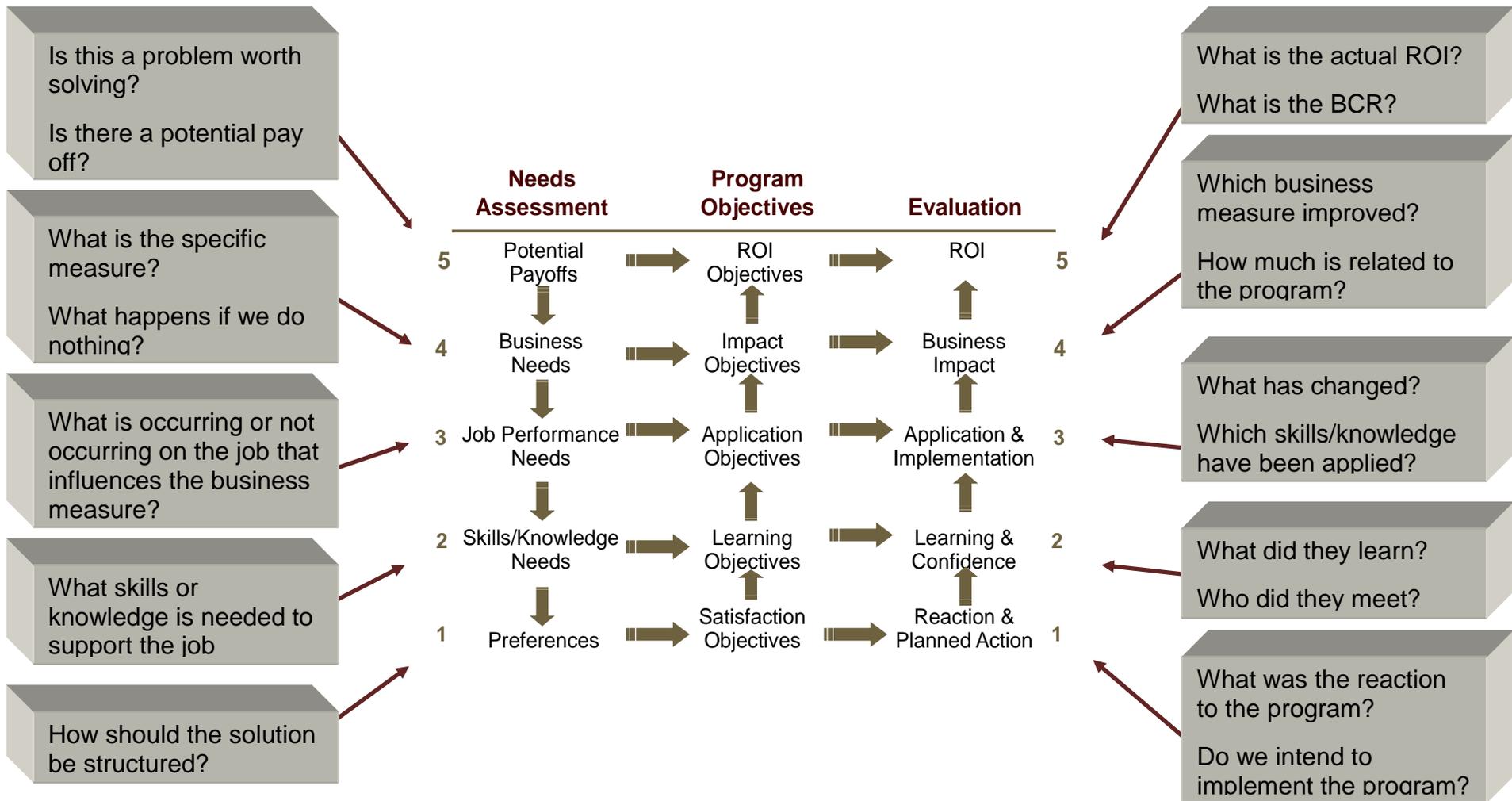
Police Project (Malaysia)
UN Security
 -Sample-

Level	Objectives	Evaluation	Level	
5	Police officers are causing problems	Break-even (BCR = 1:1)	<ul style="list-style-type: none"> • Program benefits compared to program costs 	5
4	Crime is too high in four categories Citizen complaints about police is excessive	<ul style="list-style-type: none"> • In one year: <ul style="list-style-type: none"> ○ Crime in four categories will be reduced by _____ ○ Citizen complaints about police officers with be reduced by _____ 	<ul style="list-style-type: none"> • City records • Country records 	4
3	Not following procedures Rule of law not followed Conflicts not resolved properly Actions inconsistent	<ul style="list-style-type: none"> • Police officers will: <ul style="list-style-type: none"> ○ Follow procedures ○ Enforce laws consistently ○ Resolve conflicts 	<ul style="list-style-type: none"> • Observation • Questionnaire 	3
2	Legal procedures Rule of law Conflict resolution Communication	<ul style="list-style-type: none"> • Police officers will demonstrate knowledge of: <ul style="list-style-type: none"> ○ Legal procedures ○ Rule of law ○ Conflict resolution ○ Communication 	<ul style="list-style-type: none"> • Role plays • Demonstrations • Simple quiz • Self assessment 	2
1	Police officers must see this program as: <ul style="list-style-type: none"> • Necessary • Helpful • Relevant • Important to their success 	<ul style="list-style-type: none"> • Program receives favorable rating of 4 out of 5 on the following measures: <ul style="list-style-type: none"> ○ Necessary ○ Helpful ○ Relevant ○ Important to their success 	<ul style="list-style-type: none"> • Reaction questionnaire administered to police officers 	1

Recidivism Program

Level	Needs	-Sample- Objectives	Evaluation	Level
5	Cost of housing repeat offenders is \$102,306,520. Of that amount \$17,179,441 is dedicated to repeat drug related offenses. ¹	1:1 BCR or 0% ROI	<ul style="list-style-type: none"> • Program costs compared to monetary benefits of program. • Monetary benefit determined by costs savings of housing repeat offenders. 	5
4	Reduce recidivism of drug related offenders	<ul style="list-style-type: none"> • Reduce # of rearrests • Reduce # of convictions • Increase time period of rearrests or reconviction 	<ul style="list-style-type: none"> • Monitor performance of measures • Compare to group not participating in program 	4
3	Offenders continue to engage in drug-related crimes after incarceration.	<ul style="list-style-type: none"> • Engage in treatment early in process • Attend treatment sessions • Appear in status hearings • Eliminate drug use • Identify barriers to participating in program 	<ul style="list-style-type: none"> • Monitor performance records • Self report via questionnaire 	3
2	<p>Offenders do not take seriously the need to change</p> <p>Offenders do not fully understand the continued consequence of their ongoing behavior</p> <p>Offenders do not know of a support system that will assist them in modifying their behavior</p>	<p>Upon introduction to the drug court program:</p> <ul style="list-style-type: none"> • Offenders understand costs and benefits of participation in the program • Offenders understand program process and the requirements they must meet • Offenders understand the consequences of their not participating in the program 	<ul style="list-style-type: none"> • Verbal acknowledgement obtained by judge and parole officer 	2
1	Drug Court Program	<ul style="list-style-type: none"> • Offenders recognize the program as relevant and important to their future success • Offenders commit to participation 	<ul style="list-style-type: none"> • Verbal acknowledgement obtained by judge and parole officer 	1

According to the State of Alabama Department of Corrections October 2005 status report, there are currently 8,504 habitual offenders housed in State facilities; there are 1,428 habitual offenders associated with drug crimes. The cost of housing inmates is \$12,030.40 per year. <http://www.communitycorrectionsworks.org>.



Developing Reaction Objectives

Measuring Reaction and Satisfaction

Reaction objectives are critical in this measurement chain because they:

- Describe expected immediate and long term satisfaction
- Describe issues that are important to the success of the program
- Provide basis for evaluating the beginning of the measurement chain of impact
- Place emphasis on planned action, if feasible

The best reaction objectives:

- Identify issues that are important and measurable
- Are attitude-based, clearly worded, and specific
- Specify the participant has changed in thinking or perception as a result of the program
- Underscores the linkage between attitude and the success of the program
- Represent a satisfaction index from key stakeholders
- Have the capability to predict program success

Key questions are:

- How relevant is this program?
- How important is this program?
- Are the facilitators effective?
- How appropriate is this program?
- Is this new information?
- Is this program rewarding?
- Will you implement this program?
- Will you use the concepts/advice?
- What would keep you from implementing objectives from this program?
- Would you recommend the program to others?

Examples of Level 1 Objectives

1. _____

2. _____

3. _____

Developing Learning Objectives

Measuring Skills and Knowledge Enhancement

Learning objectives are critical to measuring learning because they:

- Communicate expected outcomes from instruction
- Describe competent performance that should be the result of training or learning
- Provide basis for evaluating learning
- Focus learning for participants

The best learning objectives:

- Describe behaviors that are observable and measurable
- Are outcome-based, clearly worded and specific
- Specify what the learner must do (not know or understand) as a result of the training
- Have three components:
 1. Performance—what the learner will be able to do at the end of the training
 2. Condition—circumstances under which the learner will perform the task
 3. Criteria—degree or level of proficiency that is necessary to perform the job

Three types of learning objectives are:

- Awareness — familiarity with terms, concepts, processes
- Knowledge — general understanding of concepts, processes, etc.
- Performance — able to demonstrate the skill (at least at a basic level)

Examples of Level 2 Objectives

1. _____

2. _____

3. _____

Developing Application Objectives

Measuring on the Job Application and Implementation

Application objectives are critical to measuring application of skills and knowledge because they:

- Describe expected intermediate outcomes
- Describe competent performance that should be the result of the program
- Provide basis for evaluation of on the job performance changes
- Place emphasis on applying what was learned

The best application objectives:

- Identify behaviors that are observable and measurable
- Are outcome-based, clearly worded and specific
- Specify what the participant will change or has changed as a result of the program
- May have three components:
 1. Performance – what the participant has changed/accomplished at a specified follow-up time after the program
 2. Condition – circumstances under which the participant performed the task
 3. Criteria – degree or level of proficiency under which the task or job was performed

Two types of application objectives are:

- Knowledge based – general use of concepts, processes, etc.
- Behavior based – able to demonstrate the use of the skill (at least at a basic level)

Key questions are:

- What new or improve **knowledge** will be applied on the job?
- What is the **frequency of skill** application?
- What new **tasks** will be performed?
- What new **steps** will be implemented?
- What new **action items** will be implemented?
- What new **procedures** will be implemented or changed?
- What new **guidelines** will be implemented or changed?
- What new **processes** will be implemented or changed?

Examples of Level 3 Objectives

1. _____

2. _____

3. _____

Developing Impact Objectives

Measuring Business Impact

Impact objectives are critical to measuring business performance because they:

- Describe expected outcomes
- Describe business unit performance that should be the result of training or instruction
- Provide basis for measuring the consequences of application of skills and knowledge
- Place emphasis on achieving bottom line results

The best impact objectives:

- Must contain measures that are linked to the skills and knowledge taught in the program
- Describe measures that are easily collected
- Are results-based, clearly worded and specific
- Specify what the participant has accomplished in the business unit as a result of the training

Four types of impact objectives involving hard data are:

- Output focused
- Quality focused
- Cost focused
- Time focused

Three common types of impact objectives involving soft data are:

- Customer service focused
- Work climate focused
- Job satisfaction focused

Examples of Level 4 Objectives

1. _____

2. _____

3. _____

Developing Level 3 and 4 Objectives

Think of a program that is linked to important organizational goals. Develop at least two Level 3 and Level 4 objectives for the program. Make any assumptions you need to complete the objectives.

Program Title: _____

Target Audience: _____ Duration: _____

Level 3 Objectives:

After completing this program, participants will:

1. _____

2. _____

Level 4 Objectives:

After participants apply learned skills/behavior, their performance will impact:

1. _____

2. _____

Plan Your Project Evaluation

Program: _____

Evaluation Team: _____

Expected Date of Completion: _____

1. What is your purpose in conducting an evaluation on this program?

2. What are the program objectives at each level of evaluation?

Level 1 _____

Level 2 _____

Level 3 _____

Level 4 _____

Level 5 _____

3. What are your measures of success for each objective?

Level 1 _____

Level 2 _____

Level 3 _____

Level 4 _____

Level 5 _____

Data Collection Plan

Program: _____ Responsibility: _____ Date: _____

Level	Broad Program Objective(s)	Measures	Data Collection Method/Instruments	Data Sources	Timing	Responsibilities
1	REACTION AND PLANNED ACTION					
2	LEARNING AND CONFIDENCE					
3	APPLICATION AND IMPLEMENTATION					
4	BUSINESS IMPACT					
5	ROI	Comments: _____ _____ _____ _____				

ROI Analysis Plan

Program: _____ Responsibility: _____ Date: _____

Data Items (Usually Level 4)	Methods for Isolating the Effects of the Program/ Process	Methods of Converting Data to Monetary Values	Cost Categories	Intangible Benefits	Communication Targets for Final Report	Other Influences/ Issues During Application	Comments

Collecting Post Program Data

The Methods:

	<u>Level 3</u>	<u>Level 4</u>
• Follow-up Surveys	✓	
• Follow-up Questionnaires	✓	✓
• Observation On the Job	✓	
• Interviews with Participants	✓	
• Follow-up Focus Groups	✓	
• Program Assignments	✓	✓
• Action Planning	✓	✓
• Performance Contracting	✓	✓
• Program Follow-up Sessions	✓	✓
• Performance Monitoring		✓

Factors to Consider

When selecting data collection methods

- Type of data
- Time – Participant / Supervisor
- Costs
- Accuracy – Validity / Reliability
- Utility
- Culture / Philosophy

When determining timing of follow-up

- Availability of data
- Ideal time for behavior change (Level 3)
- Ideal time for business impact (Level 4)
- Convenience of collection
- Constraints on collection

Option 1, When You Don't Have a Clue

1. How did you use the material from this project or program?
2. What influence did it have in your work? Team?
3. What specific measure was influenced? Define it.
4. What is the unit value of the measure? (Profit or Cost)
5. What is the basis of this value?
6. How much did the measure change since the project was implemented?
7. What is the frequency of the measure? Daily, weekly, monthly, etc.
8. What is the total annual value of the improvement?
9. List the other factors that could have caused this total improvement?
10. What percent of the total improvement can be attributed to this project?
11. What is your confidence estimate, expressed as a percent, for the above data?
0% = no confidence; 100% = certainty

Option 2, When the Measure Is in a Defined Set

1. To what extent did this project or program positively influence the following measures:

	Significant Influence			No Influence		
	5	4	3	2	1	n/a
productivity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
sales	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
cost	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
efficiency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
employee satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
customer satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. What other measures were positively influenced by this project?

3. Of the measures listed above, which **one** is most directly linked to the project? (check only one)

- | | | |
|--|--|----------------------------------|
| <input type="checkbox"/> productivity | <input type="checkbox"/> sales | <input type="checkbox"/> quality |
| <input type="checkbox"/> cost | <input type="checkbox"/> efficiency | <input type="checkbox"/> time |
| <input type="checkbox"/> employee satisfaction | <input type="checkbox"/> customer satisfaction | <input type="checkbox"/> other |

4. Please define the measure above.

5. Indicate the specific unit of measurement.

6. How much did this measure improve since you began this project? _____

7. What is the frequency of the measure? daily weekly monthly annually

8. For this measure, what is the monetary value of improvement for one unit of this measure? Although this is difficult, please make every effort to provide the value.

9. Please state your basis for the estimated value of one unit of improvement you indicated above.

10. What is the total annual value of improvement in the measure you selected above?

Option 2 (cont.)

11. List the other factors that have caused this total annual improvement.
12. _____
Recognizing that other factors may have caused this improvement, estimate the percent of improvement related directly to this project of program?
_____ %
13. What confidence do you place in the estimates you have provided in the prior questions? (0% is no confidence, 100% is certainty.)
_____ %

Option 3, When the Measure Is Known

1. Please define the first measure connected to your project.
2. Define the unit of measure.
3. For this measure, what is the monetary value of improvement for one unit of this measure?
4. Please state your basis for the value of the unit of improvement you indicated above.
5. For the measure listed as most directly linked to the program, how much has this measure improved in performance?
6. Indicate the frequency base for the measure. Daily, weekly, monthly, quarterly.
7. What is the annual value of improvement in the measure you selected above?
Multiply the increase (Question 5) by the frequency (Question 6) times the unit of value (Question 4).
8. List the other factors that could have influenced these results.
9. Recognizing that the other factors could have influenced this annual value of improvement, please estimate the percent of improvement that is attributable (or isolated) to the program. Express as a percentage out of 100%.
10. What confidence do you place in the estimates you have provided in the questions above? A 0% is no confidence, a 100% is certainty.

Increasing Questionnaire Response Rates

- Provide advance communication about the questionnaire
- Clearly communicate the reason for the questionnaire
- Indicate who will see the results of the questionnaire
- Show how the data will be integrated with other data
- Keep the questionnaire simple and as brief as possible
- Keep questionnaire responses anonymous – or at least confidential
- Make it easy to respond; include a self-addressed, stamped envelope/e-mail
- Use the local manager to distribute the questionnaires, show support, and encourage response
- If appropriate, let the target audience know that they are part of a carefully selected sample
- Use one or two follow-up reminders

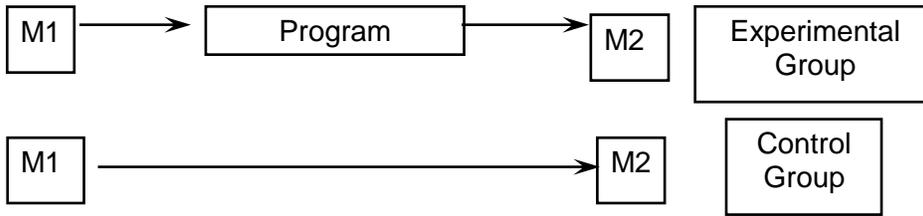
Increasing Questionnaire Response Rates (cont.)

- Have the introduction letter signed by a top executive
- Enclose a giveaway item with the questionnaire (pen, money, etc.)
- Provide an incentive (or chance of incentive) for quick response
- Send a summary of results to target audience
- Distribute questionnaire to a captive audience
- Consider an alternative distribution channel, such as e-mail
- Have a third party gather and analyze data
- Communicate the time limit for submitting responses
- Consider paying for the time it takes to complete the questionnaire
- Review the questionnaire at the end of the formal session
- Carefully select the survey sample
- Allow completion of the survey during work hours
- Add emotional appeal
- Design questionnaire to attract attention, with a professional format
- Let participants know what actions will be taken with the data
- Provide options to respond (paper, email, web-site)
- Use a local coordinator to help distribute and collect questionnaires
- Frame questions so participants can respond appropriately and make the questions relevant

Methods to Isolate Program Effects

- Use of a control group arrangement
- Trend line analysis of performance data
- Use of forecasting methods of performance data
- Participant's estimate of program impact (percent)
- Supervisor's estimate of program impact (percent)
- Manager's estimate of program impact
- Use of expert/previous studies
- Calculate/estimate the impact of other factors
- Customer input

- What is the difference in improvement?



Retention Solution at the Federal Information Agency

An opportunity to participate in a master's degree program at agency expense and agency time.

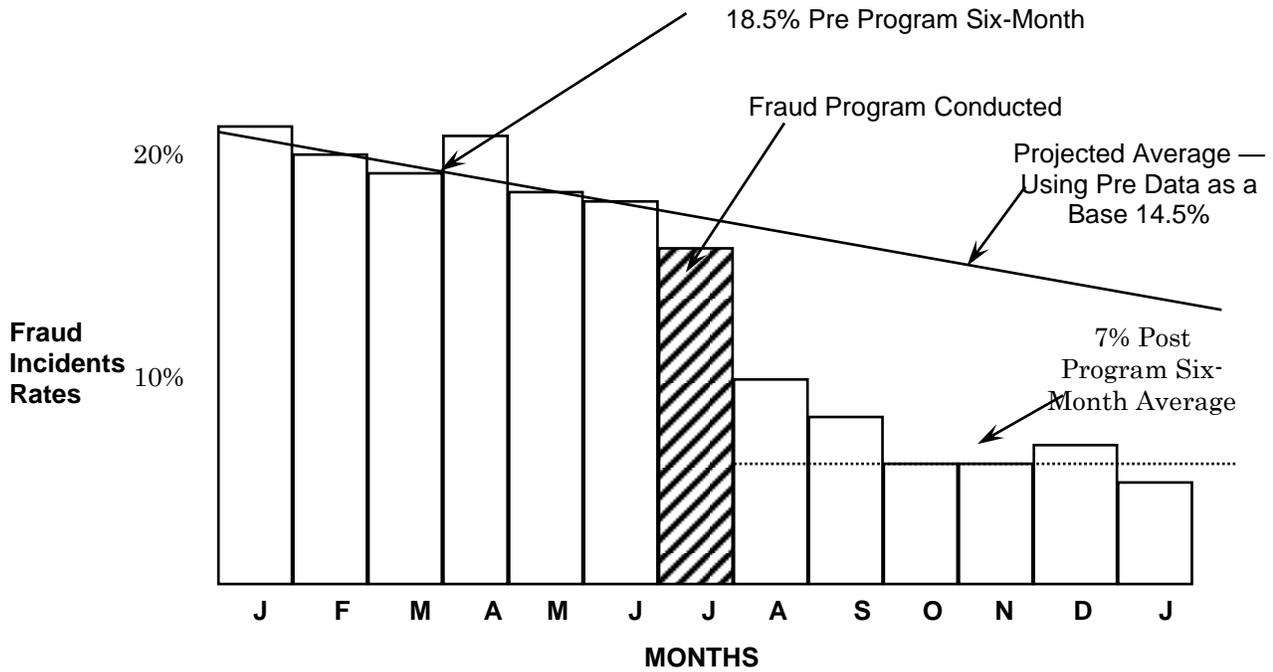
- One hundred high-potential employees chosen for program for a three year masters program in information science
- Experimental group of one hundred were involved, another one hundred in control group were not involved
- Observed employee turnover performance of both groups during the same time
- Collected evaluation data for both groups at the same time
- Neither group is aware of the control group arrangement

How would you select the control group?

Criteria for Selecting the Control Group:

- _____
- _____
- _____
- _____
- _____

Example of Trend Line Analysis



Example of Estimation

Factor that Influenced Improvement	Percent of Improvement Caused By	Confidence Expressed as a Percent	Adjusted Percent of Improvement Caused By
Program	60%	80%	48%
System Changes	15%	70%	10.5%
Environmental Changes	5%	60%	3%
Compensation Changes	20%	80%	16%
Other	_____ %	_____ %	_____ %
Total	100%		

The Wisdom of Crowds^{*}

One day in the fall of 1906, British scientist Francis Galton left his home in the town of Plymouth and headed for a country fair. Galton was eighty-five years old and beginning to feel his age, but he was still brimming with the curiosity that had won him renown—and notoriety—for his work on statistics and the science of heredity. On that particular day, what Galton was curious about was livestock.

Galton's destination was the annual West of England Fat Stock and Poultry Exhibition, a regional fair where the local farmers and townspeople gathered to appraise the quality of each other's cattle, sheep, chickens, horses, and pigs. Wandering through rows of stalls examining workhorses and prize hogs may have seemed a strange way for a scientist to spend an afternoon, but there was certain logic to it. Galton was a man obsessed with two things: the measurement of physical and mental qualities and breeding. And what, after all, is a livestock show but a big showcase for the effects of good and bad breeding?

Breeding mattered to Galton because he believed that only a very few people had the characteristics necessary to keep societies healthy. He had devoted much of his career to measuring those characteristics, in fact, in order to prove that the vast majority of people did not have them. His experiments left him with little faith in the intelligence of the average person, "the stupidity and wrong-headedness of many men and women being so great as to be scarcely credible." Galton believed, "Only if power and control stayed in the hands of the select, well-bred few, could a society remain healthy and strong."

As he walked through the exhibition that day, Galton came across a weight-judging competition. A fat ox had been selected and placed on display, and members of a gathering crowd were lining up to place wagers on what the weight of the ox would be *after* it had been slaughtered and dressed. For sixpence, an individual could buy a stamped and numbered ticket; fill in their name, occupation, address, and estimate. The best guesses would receive prizes.

Eight hundred people tried their luck. They were a diverse lot. Many of them were butchers and farmers, who were presumably expert at judging the weight of livestock, but there were also quite a few people who had no insider knowledge of cattle. "Many non-experts competed," Galton wrote later in the scientific journal *Nature*. "The average competitor was probably as well fitted for making a just estimate of the dressed weight of the ox, as an average voter is of judging the merits of most political issues on which he votes."

^{*} Taken from *The Wisdom of Crowds: Why the Many Are Smarter Than the Few and How Collective Wisdom Shapes Business, Economics, Societies and Nations*. James Surowicki. New York. Doubleday, 2004

Galton was interested in figuring out what the “average voter” was capable of because he wanted to prove that the average voter was capable of very little. So he turned the competition into an impromptu experiment. When the contest was over and the prizes had been awarded, Galton borrowed the tickets from the organizers and ran a series of statistical tests on them. Galton arranged the guesses (totaling 787 – thirteen were discarded because they were illegible) in order from highest to lowest and graphed them to see if they would form a bell curve. Then, among other things, he added all the contestants’ estimates, and calculated the mean of the group’s guesses. That number represented, you could say, the collective wisdom of the Plymouth crowd. If the crowd were a single person, that was how much it would have guessed the ox weighed.

Galton undoubtedly thought that the average guess of the group would be way off the mark. After all, mix a few very smart people with some mediocre people and a lot of dumb people, and it seems likely you’d end up with a dumb answer. But Galton was wrong. The crowd had guessed that the ox, after it had been slaughtered and dressed, would weigh 1,197 pounds. After it had been slaughtered and dressed, the ox weighed 1,198 pounds. In other words, the crowd’s judgment was essentially perfect. The “experts” were not close. Perhaps breeding didn’t mean so much after all. Galton wrote later: “The result seems more creditable to the trustworthiness of a democratic judgment than it might have been expected.” That was, to say the least, an understatement.

What Francis Galton stumbled on that day in Plymouth was the simple, but powerful, truth: under the right circumstances, groups are remarkably intelligent, and are often smarter than the smartest people in them. Groups do not need to be dominated by exceptionally intelligent people in order to be smart. Even if most of the people within a group are not especially well-informed or rational, they can still reach a collectively wise decision.

Questions for discussion:

1. What implications does this concept have in evaluation?

2. Can you cite other examples?

Credibility of Data is Influenced by

- Reputation of the source
 - Source of data
 - Source of the study
- Biases
 - Motives of the researcher
 - Personal bias of the audience
- Methodology Used
 - Assumptions made in the analysis
 - Realism of the outcome data
 - Type of data
- Scope of analysis

Data are Converted by

- Converting output to contribution – standard value
- Converting the cost of quality – standard value
- Converting employee's time – standard value
- Using historical costs
- Using internal and external experts
- Using data from external databases
- Linking with other measures
- Using participants' estimates
- Using supervisors' and managers' estimates
- Using staff estimates

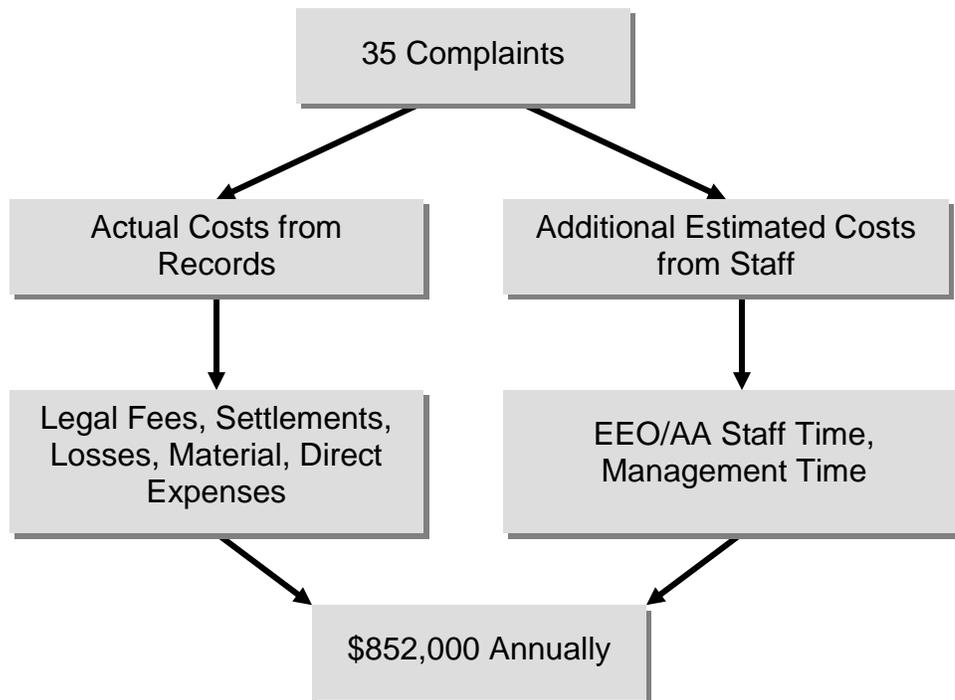
Example

Cost of One Turnover from External Database

Salary of Middle Manager	\$70,000/annually
Value of Turnover*	150% of annual salary
Cost of Turnover	\$105,000

*Value obtained from industry-related study (external data)

Cost of a Sexual Harassment Complaint using Historical Costs and Expert Input



$$\text{Cost per complaint} = \frac{\$852,000}{35} = \$24,343$$

To Convert or Not Convert

- Is there a standard value?
- Is there a method to get there?
- Can we get there with minimum resources?
- Can we convince our executive in two minutes that the value is credible?

5-Step Data Conversion

Step 1: Focus on a unit of measure

Step 2: Determine the value (V) of each unit

Step 3: Calculate the change in performance (ΔP)

Step 4: Determine the annual amount of change ($A\Delta P$)

Step 5: Calculate the total annual value of the improvement ($A\Delta P \times V$)

**Example using
Internal Experts**

Step 1: One grievance

Step 2: $V = \$6,500$ (from Director of Nursing and HR experts)

Step 3: $\Delta P =$ average of 7 out of 10 grievances prevented per month due to program

Step 4: Annual $\Delta P =$

Step 5: $A\Delta P \times V =$

Which cost category is appropriate for ROI?

A

- Operating Costs
- Support Costs

B

- Administrative Costs
- Participant Compensation and Facility Costs
- Classroom Costs

C

- Program Development Costs
- Administrative Costs
- Classroom Costs
- Participant Costs

D

- Analysis Costs
- Development Costs
- Delivery Costs
- Overhead/Administrative Costs
- Evaluation Costs

Notes

Fully-Loaded Cost Profile

- Assessment costs (prorated)
- Development costs (prorated)
- Program materials
- Instructor/Facilitator costs
- Facilities costs
- Travel/Lodging/Meals
- Participant salaries and benefits
- Administrative/Overhead costs
- Evaluation costs

Potential Intangible Benefits

- Increased job satisfaction
- Increased organizational commitment
- Improved teamwork
- Improved customer service
- Reduced complaints
- Reduced conflicts
- Reduced stress

ROI is reported in two ways

$$\text{Benefit Cost Ratio (BCR)} = \frac{\text{Program Benefits}}{\text{Program Costs}}$$

$$\text{ROI (\%)} = \frac{\text{Net Program Benefits}}{\text{Program Costs}} \times 100$$

Notes

Calculate the ROI

Costs per program (25 participants) – \$80,000

Benefits per program (1st year) – \$240,000

Benefit Cost Ratio (BCR) = _____

ROI = _____ X 100 =

What is an acceptable ROI?

- Set the value as with other investments – 15%
- Set the value slightly above other investments – 25%
- Set at break even – 0%
- Set at client expectations

When properly implemented, high ROI values can be achieved with programs on:

- Leadership
- Team Building
- Management Development
- Supervisor Training
- Sales Training

100% to 700% ROI is not uncommon

Healthcare Organization

Sexual Harassment Prevention Workshop

- Target Group: All supervisors and managers (655) with subsequent meetings with all employees (6,844)
- Data Collection
 - (3) Self Assessment Questionnaire – 6 months after program
 - (3) Employee Survey (25% sample) – 6 months after program
 - (4) Complaint and Turnover Records – 12 months after program
- Isolating the Effects of the Program
 - Complaints – Trendline Analysis
 - Turnover – Forecasting
- Converting Data to Monetary Values
 - Complaints – Historical costs and input from experts (internal EEO/AA staff)
 - Turnover – External studies within industry
- Program Costs
 - Fully loaded to include needs assessment, development, coordination, participant salaries and benefits, and evaluation
 - Total Costs = \$277,987
- Intangible Benefits
 - Job Satisfaction, absenteeism, stress reduction, community image, and recruiting
- ROI Calculation
 - Monetary benefits from complaint reduction
 - Value of one internal complaint = \$24,343
 - Annual improvement related to program = 14.8 complaints (prevented)

 - Monetary benefits from turnover reduction
 - Value of one turnover statistic = \$20,887
 - Annual improvement related to program = 136 turnovers (prevented)

Calculate the following:

$$BCR = \frac{\text{Total Benefits}}{\text{Program Costs}} = \underline{\hspace{2cm}}$$

$$ROI = \frac{\text{Total Benefits} - \text{Program Costs}}{\text{Program Costs}} \times 100 = \underline{\hspace{2cm}}$$

Why the concern?

- Measurement and evaluation are meaningless without communication
- Communication is necessary for making improvement
- Communication is a sensitive issue
- Different audiences need different information

Principles

- Keep communication timely
- Target communication to specific audiences
- Carefully select communication media
- Keep communication consistent with past practices
- Incorporate testimonials from influential individuals
- Consider the training function's reputation when developing the overall strategy

There are four types

1. Complete report
2. Executive summary
3. General audience summary
4. Streamlined report

The complete report includes the details

- General information
- Methodology for impact study
- Data analysis
- Costs
- Results
- Barriers and enablers
- Conclusions and recommendations
- Exhibits

Sample Table of Contents for an ROI Impact Study

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Section 11: Intangible Benefits

Part III Recommendations

Section 12: Barriers and Enablers

Section 13: Suggestions for Improvement

Section 14: Conclusions

Section 15: Recommendations

ROI is Credible for Public Sector

- Common categories of data
- Systematic, step-by-step process
- Conservative standards
- Results-based approach
- High level of use
- Client focused
- Satisfies all stakeholders

ROI is Feasible for Public Sector

- Not very expensive
- Many shortcut methods
- Time requirement can be managed
- Fits all types of programs
- Technology helps with costs/time
- Implementation is planned/systematic

Have No Fear

- ROI is a process improvement tool – designed to improve projects and programs
- ROI is not designed for performance review for individuals
- Every study reveals opportunities for changes
- Negative results represent the best opportunity to learn
- Negative results have a positive story
- Don't wait for a sponsor to ask for Impact and ROI

Implementation Strategies in the Public Sector

- Brief, train, educate
- Involve the staff – early and often
- Emphasize process improvement
- Explain why – routinely
- Build it into programs – not add it on
- Provide resources
- Use the results appropriately
- Celebrate and recognize

ROI Best Practices

1. The ROI methodology is implemented as a process improvement tool and not a performance evaluation tool for the staff.
2. ROI impact studies are conducted very selectively, usually involving 5-10% of projects and programs.
3. A variety of data collection methods are used in ROI analysis.
4. For a specific ROI evaluation, the effects of the program are isolated from other influences.
5. Business impact data are converted to monetary values.
6. ROI evaluation targets are developed, showing the percent of programs evaluated at each level.
7. The ROI methodology generates a micro level scorecard.

8. ROI methodology data are being integrated to create a macro scorecard for the learning/ development function
9. The ROI methodology is being implemented for about 3-5% of the budget.
10. ROI forecasting is being implemented routinely.
11. The ROI methodology is used as a tool to strengthen/improve the programs and processes.

*Based on benchmarking with over 200 organizations using ROI routinely

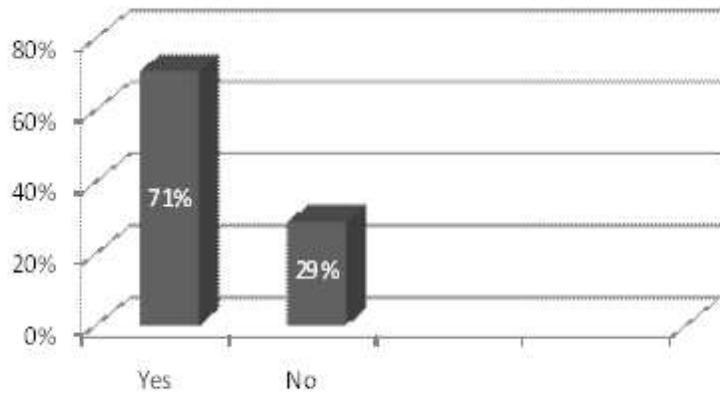
Cost-Saving Approaches to ROI

- | | |
|--|--|
| <ul style="list-style-type: none"> • Plan for evaluation early in the process • Build evaluation into the process • Share the responsibilities for evaluation • Require participants to conduct major steps • Use short-cut methods for major steps | <ul style="list-style-type: none"> • Use sampling to select the most appropriate programs for ROI analysis • Use estimates in the collection and analysis of data • Develop internal capability to implement the ROI process • Streamline the reporting process • Utilize web-based software to reduce time |
|--|--|

Status of ROI Use*

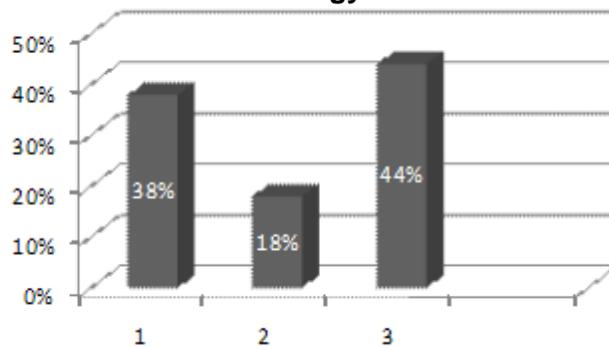
Is your leadership and/or clients asking about ROI?

1. Yes
2. No



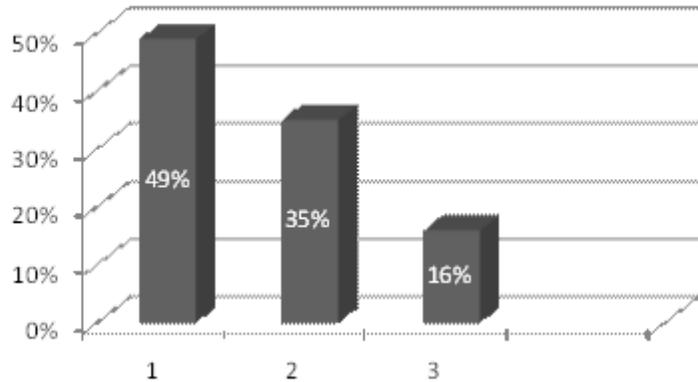
Does your organization have a measurement/evaluation strategy?

1. Yes
2. No and no plans for it in the near future
3. No, but is it in process of being developed



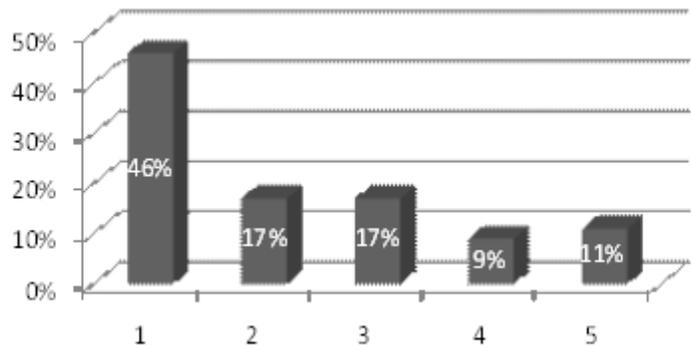
Does your organization have a measurement or evaluation function?

1. Yes
2. No and no plans for it in the near future
3. No, but being developed



How many ROI studies has your organization completed to date?

1. 1
2. 2 – 3
3. 4 – 8
4. 9 – 15
5. 16 or more



*2007 Survey of Users, N = 235

What happens if we do nothing?

- Budget?
- Support?
- Influence?
- Other Issues?

ROI Reality

- Impact/ROI information is desired by clients/ executives
- The impact/ROI process provides a balanced, credible approach with six types of data
- All types of organizations are routinely using impact/ROI
- The impact/ROI process can be implemented without draining resources
- The impact/ROI process is a long-term goal for many organizations.

Impact/ROI Standards*

1. When a higher-level evaluation is conducted, data must be collected at lower levels.
2. When an evaluation is planned for a higher level, the previous level of evaluation does not have to be comprehensive.
3. When collecting and analyzing data, use only the most credible source.
4. When analyzing data, choose the most conservative among the alternatives.
5. At least one method must be used to isolate the effects of the solution.
6. If no improvement data are available for a population or from a specific source, it is assumed that little or no improvement has occurred.
7. Estimates of improvements should be adjusted for the potential error of the estimate.
8. Extreme data items and unsupported claims should not be used in ROI calculations.
9. Only the first year of monetary benefits should be used in the ROI analysis for short-term solutions.
10. Costs of the solution should be fully loaded for ROI analysis.
11. Intangible measures are defined as measures that are purposely not converted to monetary values.
12. The results from the ROI methodology must be communicated to all key stakeholders.

* Developed by the ROI Institute with input from users.
The standards are used by more than 5,000 organizations in 52 countries.

ROI Quiz

True or False? Please choose the answer you feel is most correct

- | | T | F |
|--|--------------------------|--------------------------|
| 1. The ROI Methodology generates just one data item, expressed as a percentage. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. A program with monetary benefits of \$200,000 and costs of \$100,000 translates into a 200% ROI. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. The ROI Methodology is a tool to improve process and projects, learning/development process. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. After reviewing a detailed ROI impact study, senior executives will usually require ROI studies on all programs. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. ROI studies should be conducted very selectively, usually involving 5-10% of programs. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. While it may be a rough estimate, it is always possible to isolate the effects of a program on impact data | <input type="checkbox"/> | <input type="checkbox"/> |
| 7. A program costing \$100 per participant, designed to teach basic skills with job related software, is an ideal program for an ROI impact study. | <input type="checkbox"/> | <input type="checkbox"/> |
| 8. Data can always be converted to monetary value, credibly. | <input type="checkbox"/> | <input type="checkbox"/> |
| 9. The ROI Methodology contains too many complicated formulas. | <input type="checkbox"/> | <input type="checkbox"/> |
| 10. The ROI Methodology can be implemented for about 3-5% of my budget. | <input type="checkbox"/> | <input type="checkbox"/> |
| 11. ROI is not future oriented; it only reflects past performance. | <input type="checkbox"/> | <input type="checkbox"/> |
| 12. ROI is not possible for soft skills programs. | <input type="checkbox"/> | <input type="checkbox"/> |
| 13. If an ROI impact study, conducted on an existing program, shows a negative ROI, the client is usually already aware of the program's weaknesses. | <input type="checkbox"/> | <input type="checkbox"/> |
| 14. The best time to consider an ROI evaluation is three months after the program is completed. | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. In the early stages of implementation, the ROI Methodology is a process improvement tool and not performance evaluation for the team. | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. If senior executives are not asking for ROI, there is no need to pursue the ROI Methodology. | <input type="checkbox"/> | <input type="checkbox"/> |

So, how did you do?

Now that the answers to the quiz have been explained, see how you fared. Tally your scores. Based on the interpretations below, what is your ROI acumen?

<u>No. of Correct Responses</u>	<u>Interpretation</u>
14-16	You could be an ROI consultant
10-13	You could be a speaker at the next ROI Conference
7-9	You need a copy of a thick ROI book
4-6	You need to attend a two-day ROI workshop
1-3	You need to attend the ROI certification

Sample of Published ROI Studies

Measuring the ROI:	Key Impact Measures:	ROI
Performance Management (Restaurant Chain)	A variety of measures, such as productivity, quality, time, costs, turnover, and absenteeism	298% ¹
Process Improvement Team (Apple Computer)	Productivity and labor efficiency	182% ¹
Skill-Based Pay (Construction Materials Firm)	Labor costs, turnover, absenteeism	805% ²
Sexual Harassment Prevention (Health Care Chain)	Complaints, turnover, absenteeism, job satisfaction	1052% ²
Safety Incentive Plan (Steel Company)	Accident frequency rate, accident severity rates	379% ²
Diversity (Nextel Communications)	Retention, employee satisfaction	163% ⁶
Retention Improvement (Financial Services)	Turnover, staffing levels, employee satisfaction	258% ³
Absenteeism Control/Reduction Program	Absenteeism, customer satisfaction	882% ²
Stress Management Program (Electric Utility)	Medical costs, turnover, absenteeism	320% ²
Executive Leadership Development (Financial)	Team projects, individual projects, retention	62% ²
E-Learning (Petroleum)	Sales	206% ²
Internal Graduate Degree Program (Federal Agency)	Retention, individual graduate projects	153% ⁴
Executive Coaching (Nortel Networks)	Several measures, including productivity, quality, cost control, and product development time	788% ⁵
Competency Development (Veteran's Health Administration)	Time savings, work quality, faster response	159% ⁴
First Level Leadership Development (Auto Rental Company)	Various measures – at least two per manager	105% ⁷

References for Published Studies

1. *In Action: Measuring Return on Investment*, Volume 3. Patricia P. Phillips, Editor; Jack J. Phillips, Series Editor. Alexandria: ASTD, 2001.
2. *The Human Resources Scorecard: Measuring the Return on Investment*. Jack Phillips, Ron D. Stone, Patricia P. Phillips. Woburn: Butterworth-Heinemann, 2001.
3. *In Action: Retaining Your Best Employees*. Patricia P. Phillips, Editor; Jack J. Phillips, Series Editor. Alexandria: ASTD and the Society for Human Resource Management, 2002.
4. *In Action: Measuring ROI in the Public Sector*. Patricia P. Phillips, Editor. Alexandria: ASTD, 2002.
5. *In Action: Coaching for Extraordinary Results*. Darelyn J. Mitch, Editor; Jack J. Phillips, Series Editor. Alexandria: ASTD, 2002.
6. *In Action: Implementing Training Scorecards*. Lynn Schmidt, Editor; Jack J. Phillips, Series Editor. Alexandria: ASTD, 2003.
7. *The Leadership Scorecard*, Jack J. Phillips and Lynn Schmidt, Woburn: Butterworth-Heinemann, 2004.

Additional Resources

- Measuring for Success: What CEOs Really Think About Learning Investments*. Jack J. Phillips and Patti P. Phillips. ASTD, 2010.
- Beyond Learning Objectives: Develop Measurable Objectives That Link To The Bottom Line*. Jack J. Phillips and Patti P. Phillips. ASTD, 2008.
- The Measurement and Evaluation Series. ROI Fundamentals: Why and When to Measure Return on Investment; Data Collection: Planning For and Collecting All Types of Data; Isolation of Results: Defining the Impact of the Program; Data Conversion: Calculating the Monetary Benefits, Costs and ROI: Evaluating at the Ultimate Level; Communication and Implementation: Sustaining the Practice*. Patricia P. Phillips and Jack J. Phillips. Pfeiffer, 2008
- ROI In Action Casebook*. Patricia P. Phillips and Jack J. Phillips. Pfeiffer, 2008.
- The Value of Learning: How Organizations Capture Value and ROI and Translate It into Support, Improvement, and Funds*. Jack J. Phillips and Patricia P. Phillips. Pfeiffer, 2007.
- Show Me the Money*. Jack J. Phillips and Patricia P. Phillips. Berrett-Koehler, San Francisco, CA, 2007
- Return on Investment in Training and Performance Improvement Programs*, 2nd Edition, Jack J. Phillips. Woburn: Butterworth Heinemann, 2003.
- How to Measure Training Results: A Practical Guide to Tracking the Six Key Indicators*. Jack J. Phillips and Ron D. Stone. New York: McGraw-Hill Publishing, 2002.
- In Action: Measuring Intellectual Capital*. Patricia P. Phillips, Editor; Jack J. Phillips, Series Editor. Alexandria: ASTD, 2002.
- The Bottomline on ROI*. Patricia P. Phillips, Atlanta: CEP Press, 2002.
- The Consultant's Scorecard*. Jack J. Phillips, New York: McGraw-Hill Publishing, 2000.
- In Action: Performance Analysis and Consulting*. Jack J. Phillips, Editor and Series Editor, Alexandria: ASTD, 1999.

Origin/Development/History

- The ROI Methodology™ was developed by Dr. Jack J. Phillips in the 1970s, refined through application and use in the 1980s, and implemented globally during the 1990s.
- First impact study – 1973, Measuring the ROI in a Cooperative Education Program, for Lockheed-Martin
- First public presentation on the methodology – 1978, ASTD Annual Conference
- First book published to include methodology – 1983, *Handbook of Training Evaluation and Measurement Methods*, Gulf Publishing (this was the first USA book on training evaluation)
- First one-day public workshop –1991, Birmingham, Alabama
- First two-day public workshop –1992, Johannesburg, South Africa
- First case study book published – 1994, *Measuring Return on Investment*, ASTD
- First international partnership established – 1994, Indonesia
- First public certification workshop – 1995, Nashville, Tennessee
- ROI Network organized - 1996
- First ROI Network Conference –1997, New Orleans, Louisiana
- First international ROI Network Conference – 2002, Toronto, Canada
- First ROI in Government Conference – 2003, Gulfport, Mississippi, Co-sponsored by the University of Southern Mississippi
- First ROI software release – 2003, Knowledge Advisors
- Distinguished contribution to workplace learning and performance awarded by ASTD to Jack Phillips for the work on ROI - 2005
- On-line ROI Certification launched – 2006, University Alliance-Villanova University
- ROI Certification offered as part of Master's and Ph.D. degree – Capella University, 2006
- ROI Methodology adopted by the United Nations for system implementation- 2008

Use

- More than 4,000 organizations are using the ROI Methodology, through planned implementation
- 3,000 organizations have formally implemented the methodology through ROI Certification™ conducted by the ROI Institute
- Approximately 5,000 impact studies are conducted annually in learning and development and human resources
- At least 300 public sector governmental units are using the methodology
- ROI implementation was first pursued in manufacturing, then moved to service, healthcare, non-profits, governments, and is now in educational systems

Applications

Typical applications include:

- | | | |
|--------------------------|----------------------------|--------------------------------|
| • Leadership Development | • Ethics/Compliance | • Knowledge Management |
| • Career Management | • Meetings and Events | • Safety and Health Programs |
| • Competency Systems | • Management Development | • Communications |
| • Diversity | • Marketing | • Skill-Based/Compensation |
| • E-Learning | • Organization Development | • Technology Implementation |
| • Coaching | • Orientation | • Quality/Six Sigma |
| • Consulting | • Recruiting/Selection | • Wellness/Fitness Initiatives |

Articles and Publicity

- More than 100 articles have been published on the ROI Methodology in major publications in 30 countries
- The ROI Methodology has been a cover story on at least 15 publications, magazines, and journals
- At least 100 interviews in major global business and professional publications
- More than 25 radio and TV interviews in different countries

Books

- 30 books have been published on the ROI Methodology and its application (www.roiinstitute.net)
- Primary reference – *Return on Investment in Training and Performance Improvement Projects*, 2nd Edition, Jack J. Phillips, Butterworth-Heinemann, Woburn, MA, 2003 (originally published in 1997)
- Award winning book – *Bottomline on ROI*, Patricia Pulliam Phillips, CEP Press, 2002 (received ISPI award)
- General application – *Show Me the Money*, Jack J. Phillips and Patricia Pulliam Phillips, Berrett-Koehler, 2007
- Most comprehensive work – *Measurement and Evaluation Series*, Jack J. Phillips and Patricia Pulliam Phillips, Pfeiffer, 2008

Case Studies

- More than 200 case studies published in books, journals, and industry publications
- Four-volume set published by ASTD in 1994, 1997, 2001, and 2005
- First public sector case book – 2002, published jointly by the International Personnel and Management Association and the American Society for Training and Development
- First International case book – 2005, Ireland published by Skillnets
- International case studies under development in 12 countries

Workshops (One-Day, Two-Day, and Three-Day)

- Approximately 200 one-day workshops conducted with more than 8,000 participants
- Approximately 500 two-day workshops conducted with more than 15,000 specialists and managers attending (offered in almost every major international city)
- Routine schedules of one-day, two-day, and three-day workshops offered in the USA by ASTD (www.astd.org) and through partners around the world

ROI Certification™

- Five-day workshop plus two work products lead to certification for ROI implementation
- More than 4,000 professionals have attended certification, representing more than 3,000 organizations in at least 50 countries
- Certifications offered routinely about 25 times per year both internally and publicly by the ROI Institute (www.roiinstitute.net)
- On-line certification begins every month-six months duration (www.roiinstituteonline.com)

Global Implementation

- First implementation of the ROI Methodology outside the USA – 1992, South Africa
- First certification in non-English language – 1995, Italy
- Implementation is accomplished through partners in various countries
- Implementation is currently occurring in 51 countries, with additional implementations planned in other countries
- Books published in 33 languages
- 12 international case study books in development or in the planning stages

Jack J. Phillips, Ph.D.

Jack J. Phillips is a world-renowned expert on accountability, measurement and evaluation. Phillips provides consulting services for *Fortune* 500 companies and major global organizations. The author or editor of more than fifty books, he conducts workshops and presents at conferences throughout the world.

Phillips has received several awards for his books and work. On three occasions, *Meeting News* named him one of the 25 Most Influential People in the Meetings and Events Industry, based on his work on ROI. The Society for Human Resource Management presented him an award for one of his books and honored a Phillips ROI study with its highest award for creativity. The American Society for Training and Development gave him its highest award, Distinguished Contribution to Workplace Learning and Development for his work on ROI.

His expertise in measurement and evaluation is based on more than 27 years of corporate experience in the aerospace, textile, metals, construction materials and banking industries. Dr. Phillips has served as training and development manager at two *Fortune* 500 firms, as senior human resource officer at two firms, as president of a regional bank and as management professor at a major state university.

Dr. Phillips regularly consults with clients in manufacturing, service and government organizations in 52 countries in North and South America, Europe, Africa, Australia and Asia.

Phillips and his wife, Dr. Patti P. Phillips, recently served as authors and series editors for the *Measurement and Evaluation Series* published by Pfeiffer (2008), which includes a six-book series on the ROI Methodology and a companion book of 14 best-practice case studies. Other books recently authored by Phillips include *ROI for Technology Projects: Measuring and Delivering Value* (Butterworth-Heinemann, 2008); *Return on Investment in Meetings and Events: Tools and Techniques to Measure the Success of all Types of Meetings and Events* (Butterworth-Heinemann, 2008); *Show Me the Money: How to Determine ROI in People, Projects, and Programs* (Berrett-Koehler, 2007); *The Value of Learning* (Pfeiffer, 2007); *How to Build a Successful Consulting Practice* (McGraw-Hill, 2006); *Investing in Your Company's Human Capital: Strategies to Avoid Spending Too Much or Too Little* (Amacom, 2005); *Proving the Value of HR: How and Why to Measure ROI* (SHRM, 2005); *The Leadership Scorecard* (Elsevier Butterworth-Heinemann, 2004); *Managing Talent Retention* (Pfeiffer, 2009); *Return on Investment in Training and Performance Improvement Programs*, 2nd ed. (Elsevier Butterworth-Heinemann, 2003); *The Project Management Scorecard*, (Elsevier Butterworth-Heinemann, 2002); *Beyond Learning Objectives* (ASTD, 2008); *The Human Resources Scorecard: Measuring the Return on Investment* (Elsevier Butterworth-Heinemann, 2001); *Measuring for Success* (ASRD, 2010) and *The Consultant's Scorecard* (McGraw-Hill, 2000). Phillips served as series editor for ASTD's In Action casebook series, an ambitious publishing project featuring 30 titles. He currently serves as series editor for Elsevier Butterworth-Heinemann's Improving Human Performance series.

Dr. Phillips has undergraduate degrees in electrical engineering, physics and mathematics; a master's degree in Decision Sciences from Georgia State University; and a Ph.D. in Human Resource Management from the University of Alabama. He has served on the boards of several private businesses and several nonprofits and associations, including the American Society for Training and Development and the National Management Association. He is chairman of the ROI Institute, Inc., and can be reached at (205) 678-8101, or by e-mail at jack@roiinstitute.net.

Patti P. Phillips, Ph.D.

Dr. Patti P. Phillips is president and CEO of the ROI Institute, Inc., the leading source of ROI competency building, implementation support, networking, and research. A renowned expert in measurement and evaluation, she helps organizations implement the ROI Methodology in countries around the world, including India, Indonesia, South Africa, Australia, Chile, Brazil, Romania, Ireland, Canada, and the United States.

Since 1997, following a 13-year career in the electric utility industry, Phillips has embraced the ROI Methodology by committing herself to ongoing research and practice. Dr. Phillips has implemented ROI in private sector and public sector organizations. She has conducted ROI impact studies on programs such as leadership development, sales, new-hire orientation, human performance improvement, K-12 educator development, and educators' National Board Certification mentoring. Her current work includes research and application of the ROI Methodology in workforce development, community development, and social sector programs as well as corporate initiatives such as learning and development, human resources, and meetings and events.

Dr. Phillips teaches others to implement the ROI Methodology through the ROI Certification process, as a facilitator for ASTD's ROI and Measuring and Evaluating Learning Workshops, and as visiting professor at The University of Southern Mississippi for graduate-level evaluation courses. She also serves as faculty for the United Nations System Staff College Evaluation and Impact Assessment course and their Results-Based Measurement Course. She serves on numerous doctoral dissertation committees, assisting students as they develop their own research on measurement, evaluation, and ROI.

Phillips speaks on the topic of ROI and accountability at conferences and symposia in countries around the world. She is often heard over the internet as she presents the ROI Methodology to a wide variety of audiences via webcasts.

Dr. Phillips's academic accomplishments include a Ph.D. in International Development and a master's degree in Public and Private Management. She is a certified in ROI evaluation and has been awarded the designations of Certified Professional in Learning and Performance and Certified Performance Technologist. She contributes to a variety of journals and has authored a number of books on the subject of accountability and ROI, including *Data Conversion* (Pfeiffer, 2008); *ROI Fundamentals* (Pfeiffer, 2008); *Return on Investment in Meetings and Events: Tools and Techniques to Measure the Success of All Types of Meetings and Events* (Elsevier, 2008); *Show Me the Money: How to Determine ROI in People, Projects, and Programs* (Berrett-Koehler, 2007); *The Value of Learning* (Pfeiffer, 2007); *Return on Investment Basics* (ASTD, 2005); *Proving the Value of HR: How and Why to Measure ROI* (SHRM, 2005); *Make Training Evaluation Work* (ASTD, 2004); *The Bottom Line on ROI* (Center for Effective Performance, 2002), which won the 2003 ISPI Award of Excellence; *ROI at Work* (ASTD, 2005); the ASTD In Action casebooks *Measuring ROI in the Public Sector* (2002), *Retaining Your Best Employees* (2002), and *Measuring Return on Investment Vol. III* (2001); the ASTD Infoline series, including *Planning and Using Evaluation Data* (2003), *Managing Evaluation Shortcuts* (2001), and *Mastering ROI* (1998). Dr. Phillips can be reached at patti@roiinstitute.net.